



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/508,946	07/11/2005	Chiaki Nagahama	259778US0PCT	7749
22850	7590	03/31/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
WILDER, CYNTHIA B				
ART UNIT		PAPER NUMBER		
1637				
NOTIFICATION DATE		DELIVERY MODE		
03/31/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com

oblonpat@oblon.com

jgardner@oblon.com

### Office Action Summary

**Application No.**

10/508,946

**Applicant(s)**

NAGAHAMA ET AL.

**Examiner**

CYNTHIA B. WILDER

**Art Unit**

1637

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) 8-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☒ Information Disclosure Statement(s) (PTO/SE-152)  
Paper No(s)/Mail Date 11/2004, 4/2006 & 12/2006
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, claims 1-7 in the reply filed on 12/18/2007 is acknowledged. The traversal is on the ground(s) that no adequate reasons and/or example have been provided to support a conclusion of patentable distinctiveness between the identified groups. Applicant states that a search of the all of the claims would not impose a serious burden on the Office.
2. This is not found persuasive because the previous specifically provides prior art (see page 2 of prior Office action) which teaches the instant invention as broadly claimed. The teaching provides evidence that the special technical feature is not "special" and does not provide a contribution over the prior art. Further, the Examiner maintains that the different inventions are distinct in that they required different materials and reagents and has separate and distinct uses. For example the product of invention I and II can be practice with a materially different process such as protein expression profiling. Likewise the product of invention I is distinct from that of Invention II in that the product of invention I can be utilized in drug delivery system. Contrary to Applicant's arguments, a search burden exists because the different inventions require an extensive search of patent and non-patents documents in non-overlapping subject matter. Additionally, the searches of the different inventions are not coextensive as a search of the biological immobilized gel of invention I is not required for a search of the gel-filled tube or the method of detecting a target as recited in the inventions of Groups

II and III. Therefore, the requirement is still deemed proper and is therefore made FINAL.

***Claim Objections***

3. Claim 4 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claim 4 is being interpreted by the Examiner as being dependent from the claim 2.

***Claim Rejections - 35 USC § 103(a)***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Timofeev et al (Nucleic acids Research, vol. 24, no. 16, pages 3142-3148, 1996). Regarding claims 1 and 6, Timofeev et al teach a biological substance-immobilized gel which comprises a gel containing 0.9 M N, N-dimethylacrylamide and a biological substance immobilized on the gel and method of preparing a biological substance-immobilized gel as described above (see abstract, page 3144, last paragraph of col.1, col. 2, last two paragraphs; page 3145, last paragraph of col. 2 and page 3145, section entitled "Immobilization of Oligonucleotides").

Regarding claims 2 and 7, Timofeev et al teach a biological substance-immobilized gel which comprises a gel having the following composition and a biological substances immobilized on the gel:

(a) N, N-dimethylacrylamide 0.9 M

(b) cross-linking agent 0.1 M (see page 3144 and 3145, col. 2).

Regarding claim 3, Timofeev et al teach a biological substance-immobilized gel according to claim 1, wherein the biological substance is nucleic acid (see Abstract and page 3144, col. 2, section entitled "oligonucleotide immobilization" and page 3146-47 section entitled "Immobilization of oligonucleotides").

Regarding claims 4 and 5, Timofeev et al teach wherein the crosslinking agent is a multifunctional monomer having at least two ethylenically unsaturated bonds and wherein said crosslinking agent is methylenebisacrylamide (page 3144, col. 1 and page 3145, col. 2).

Timofeev et al do not expressly teach that N, N-dimethylacrylamide is present at a concentration of 2% to 7% and the cross-linking agent at 0.1% to 1.5%. MPEP states that "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Therefore, the instant invention is *prima facie* obvious over the teachings of Timofeev in the absence of secondary consideration.

7. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akita et al (EP 11158047, citation made of record). Regarding claims 1 and 6, Akita et al teach a biological substance-immobilized gel which comprises a gel containing N, N-dimethylacrylamide and a biological substance immobilized on the gel and method of preparing a biological substance-immobilized gel as described above (pages 4, 5, 10, 11).

Regarding claims 2 and 7, Akita et al teach a biological substance-immobilized gel which comprises a gel having the following composition and a biological substances immobilized on the gel:

- (a) N, N-dimethylacrylamide
- (b) cross-linking agent 0.1 M (page 11).

Regarding claim 3, Akita et al teach a biological substance-immobilized gel according to claim 1, wherein the biological substance is nucleic acid (page 4-5).

Regarding claims 4 and 5, Akita et al teach wherein the crosslinking agent is a multifunctional monomer having at least two ethylenically unsaturated bonds and wherein said crosslinking agent is methylenebisacrylamide (page 11).

Akita et al do not expressly teach that N, N-dimethylacrylamide is present at a concentration of 2% to 7% and the cross-linking agent at 0.1% to 1.5%. MPEP states that "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). Therefore, the instant invention is *prima facie* obvious over the teachings of Akita et al in the absence of secondary consideration.

### ***Conclusion***

8. No claims are allowed. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CYNTHIA B. WILDER whose telephone number is (571)272-0791. The examiner can normally be reached on a flexible schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia B. Wilder/  
Patent Examiner  
Art Unit 1637

3/1/2008